

And hence Light is in fits of easy reflexion and easy transmission, before its incidence on transparent Bodies. And probably it is put into such fits at its first emission from luminous Bodies, and continues in them during all its progress. For these fits are of a lasting Nature, as will appear by the next part of this Book.

In this Proposition I suppose the transparent Bodies to be thick, because if the thickness of the Body be much less than the interval of the fits of easy reflexion and transmission of the rays, the Body loseth its reflecting power. For if the rays, which at their entering into the Body are put into fits of easy transmission, arrive at the furthest surface of the Body before they be out of those fits they must be transmitted. And this is the reason why Bubbles of Water lose their reflecting power when they grow very thin, and why all opaque Bodies when reduced into very small parts become transparent.

P R O P. XIV.

Those surfaces of transparent Bodies, which if the ray be in a fit of refraction do refract it most strongly, if the ray be in a fit of reflexion do reflect it most easily.

For we shewed above in Prop. 8. that the cause of reflexion is not the impinging of Light on the solid impervious parts of Bodies, but some other power by which those solid parts act on Light at a distance. We shewed also in Prop. 9. that Bodies reflect and refract Light by one and the same power variously exercised in various circumstances, and in Prop. 1. that the most strongly refracting surfaces reflect the most Light: All
which

which compared together evince and ratify both this and the last Proposition.

P R O P. XV.

In any one and the same sort of rays emerging in any Angle out of any refracting surface into one and the same medium, the interval of the following fits of easy reflexion and transmission are either accurately or very nearly, as the Rectangle of the secant of the Angle of refraction, and of the secant of another Angle, whose sine is the first of 106 arithmetical mean proportionals, between the sines of incidence and refraction counted from the sine of refraction.

This is manifest by the 7th Observation.

P R O P. XVI.

In several sorts of rays emerging in equal Angles out of any refracting surface into the same medium, the intervals of the following fits of easy reflexion and easy transmission are either accurately, or very nearly, as the Cube-roots of the Squares of the lengths of a Chord, which sound the notes in an Eight, sol, la, fa, sol, la, mi, fa, sol, with all their intermediate degrees answering to the Colours of those rays, according to the Analogy described in the seventh Experiment of the second Book.

This is manifest by the 13th and 14th Observations.

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P R O P.